
THE RESIDENTIAL SEGREGATION OF MIXED-NATIVITY MARRIED COUPLES*

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This article examines the ways in which mixed-nativity marriage is related to spatial assimilation in metropolitan areas of the United States. Specifically, we examine the residential patterns of households with a mixed-nativity—and, in some cases, interracial—marriage to determine whether they are less segregated from the native-born than entirely foreign-born households. Using restricted-use data from the 2000 census, we find that compared with couples in which both spouses are foreign-born, mixed-nativity couples tend to be less segregated from various native-born racial and ethnic groups. Further, among both foreign-born Asians and Hispanics, those with a native-born non-Hispanic white spouse are considerably less segregated from native-born white households than from other foreign-born Asian and Hispanic households. We also find that even though nativity status matters for black couples in a manner consistent with assimilation theory, foreign-born and mixed-nativity black households still each display very high levels of segregation from all other native-born racial/ethnic groups, reaffirming the power of race in determining residential patterns. Overall, our findings provide moderate support for spatial assimilation theory and suggest that cross-nativity marriages often facilitate the residential integration of the foreign-born.

Assimilation has traditionally been conceived as the process by which people and groups acquire shared memories and values, and thus a common culture (Park and Burgess 1921). Milton Gordon, in his well-known *Assimilation in American Life* (1964), provided an analytical synthesis of assimilation theory and concepts. He argued that the assimilation process first involves “acculturation,” wherein minority group members adopt the cultural patterns of the host society; this process is followed by “structural assimilation,” which entails minority integration into primary groups and institutions, such as through close friendships and intermarriage. Contemporary assimilation theorists emphasize that assimilation need not be a one-way street, where minority members become more like majority group members. Rather, assimilation involves a general convergence of social, economic, cultural, and—the focus here—residential patterns (Alba and Nee 2003).

Some have argued that the incorporation of immigrant groups in U.S. society can be facilitated by mixed-nativity marriages between immigrants and the native-born (Bean and Stevens 2003). Such marriages potentially help acculturate the foreign-born spouse and other household members through a guided introduction to local norms and institutions. The extent to which households with mixed-nativity marriages are spatially assimilated is not well understood and thus is the focus of this analysis. In addition, mixed-nativity marriages that cross racial/ethnic lines might be all the more likely to live in integrated areas because they may signal an even greater dissolution of social barriers between groups (Bean and Stevens 2003). Intermarriage across nativity and racial/ethnic lines is likely indicative of structural assimilation along multiple dimensions.

The goal of this study, therefore, is to examine the residential patterns of households in which one spouse is foreign-born and the other is U.S.-born to discern whether they are, in fact, less segregated from native-born households than households in which both spouses

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are foreign-born. We further investigate whether households that are both mixed-nativity and mixed-race/-ethnicity have particularly low levels of segregation from others, and how the specific ethnic combination of the spouses affects observed patterns. Because of data constraints, very little is known about the residential patterns of mixed-nativity couples, and less yet is known about mixed-nativity and mixed-race ones. Thus, our analyses rely on restricted-use data from the 2000 census that provide geographically detailed counts of various groups not available in public-use census data files. We calculate levels of segregation (using the dissimilarity index) of mixed-nativity households and run regression models that control for group and metropolitan area characteristics to shed light on the predictive power of spatial assimilation theory compared with competing theories.

BACKGROUND

Three theoretical perspectives commonly used to explain how immigrants and minority groups become incorporated into society are assimilation, ethnic disadvantage, and segmented assimilation (Alba and Nee 2003; Iceland 2009).

Classic spatial assimilation theory posits that immigrant groups experience a process toward integration with a society's majority group through the adoption of mainstream attitudes, culture, and human capital attributes (Alba and Nee 2003). The acculturation of the foreign-born and their children to the host society, as well as their socioeconomic mobility over time, are key factors in the assimilation process. Early in this process, groups may be segregated from the native majority for a number of reasons. The low socioeconomic status (SES) of many immigrant groups may mean that such individuals simply may not be able to afford to live in the same neighborhoods as the more-affluent native majority (Alba and Logan 1991; Clark 1986, 1988). People with low levels of human capital may also be particularly dependent on their ethnic communities (Alba and Nee 2003; Portes and Rumbaut 2006). Social networks—both kin and community—are key factors shaping where internal migrants and immigrants live (Castles and Miller 2003; Portes and Rumbaut 2006). However, immigrant group members are more likely to move into other residential areas if and when they become more socioeconomically similar to the native majority. Contemporary assimilation theorists emphasize that assimilation need not be a one-way street, where immigrants become more like native majority group members. Rather, assimilation involves a general convergence of social, economic, cultural, and residential patterns (Alba and Nee 2003). Applying assimilation theory to our study, we expect to see lower levels of racial and ethnic residential segregation among native-born group members than among foreign-born ones, since the latter are more likely to reside in segregated ethnic enclaves.

In contrast to the residential convergence of groups theorized by spatial assimilation theory, the ethnic disadvantage perspective (often termed "place stratification theory" in the residential segregation literature) emphasizes prejudice and discrimination among majority group members in shaping residential patterns of new or marginalized groups in a society (Charles 2003; Massey 1985). Discriminatory practices have included real estate agents steering racial groups to certain neighborhoods and unequal access of racial groups to mortgage credit, among other practices (Galster 1988; Massey and Denton 1993; Yinger 1995). With regard to preferences, ethnic groups often show strong desires to live in neighborhoods where their own group is highly represented, and they often avoid other ethnic neighborhoods. However, African Americans, Hispanics, and Asians are more likely than whites to express a preference to live in integrated neighborhoods (Bobo and Zubrinsky 1996; Farley et al. 1994; Zubrinsky and Bobo 1996). The effects of structural barriers are thought to be greatest for blacks in the United States because blacks have historically been perceived in the most unfavorable terms (Charles 2006). Despite some declines in discrimination in recent years, many believe that both discrimination and white avoidance of mixed or minority neighborhoods still play central roles in shaping

the residential patterns of minority group members in the United States (Ross and Turner 2005; Squires and Kurbin 2006).

Applying place stratification theory to our study, we expect that the race of individuals in married couples will play a key role in their levels of segregation from other households. Nativity status and other factors are not expected to be particularly salient because of the racially motivated prejudices and preferences of the native-born white population that are only marginally affected by nonracial factors, as noted by Alba and Logan (1991) and Charles (2003). Even black immigrants, for example, who often try to emphasize their ethnic (country) origins to distinguish themselves from the native-born black population, often end up being categorized as "black" by whites (Crowder 1999; Denton and Massey 1989).

The segmented assimilation perspective focuses on divergent patterns of incorporation among contemporary immigrants (Portes and Zhou 1993; Zhou 1999). According to this theory, the host society offers uneven possibilities to different immigrant groups based on social factors, including race and SES. In particular, recent immigrants become absorbed by different segments of American society, ranging from affluent, predominantly white middle-class suburbs to impoverished, predominantly African American inner-city ghettos. For example, high-SES immigrants and their children who are fluent in English have a relatively high likelihood of assimilating with native-born whites. Conversely, low-SES immigrants with poor English-language skills are less likely to assimilate with native-born whites and instead either cultivate ties with their ethnic communities or even assimilate downward with poor African Americans (Zhou 1999). Structural factors that likewise affect patterns of incorporation include racial stratification and the range of economic opportunities available in a particular place at a particular time. Racial discrimination, in particular, may diminish the opportunities available to nonwhite immigrants. Hispanic and black immigrants, especially, remain highly disadvantaged in U.S. society and are thus unlikely to assimilate with native-born whites (Zhou 1999).

Applying the segmented assimilation perspective to our analysis, we should observe markedly different residential patterns across racial and ethnic groups. Among nonwhite immigrants, and blacks and Hispanics in particular, nativity status of the couple may not matter in terms of assimilation with native-born whites because of racial stratification in American society. Segmented assimilation theory would also certainly predict that mixed-nativity couples may be less segregated from native-born couples of the same race because of ethnic affinity and the importance of race in American society.

General Patterns of Segregation by Race and Nativity

Studies on residential segregation have indicated that black-white residential segregation in U.S. metropolitan areas is high in absolute terms but has declined moderately over the past few decades. In 2000, Hispanics were generally the next most highly segregated from non-Hispanic whites, followed by Asians. For example, the weighted average black-white dissimilarity score was 0.64 in 2000, followed by Hispanic-white dissimilarity at 0.51 and Asian-white dissimilarity of 0.41 (Iceland, Weinberg, and Steinmetz 2002). These levels of segregation are consistent with patterns discussed in the racial preferences literature and with racial intermarriage patterns more generally.

Other studies have noted that Hispanic segregation from blacks is moderate to high, and actually quite similar to Hispanic-white segregation levels (Iceland and Nelson 2008; Logan 2002). Asian segregation levels in some ways mirror white ones: Asian-black dissimilarity in 2000 (0.54) was higher than Asian-Hispanic dissimilarity (0.47), which was in turn a little higher than Asian-white dissimilarity (0.41) (Lewis Mumford Center 2001).

Studies have also indicated that the foreign born of various ethnic groups tend to be moderately more segregated from whites and less likely have moved into white neighborhoods than the native-born of the respective ethnic groups (Denton and Massey 1988; Iceland and Nelson 2008; Iceland and Scopilliti 2008; South, Crowder, and Chavez 2005a,

2005b). These patterns are generally consistent with spatial assimilation. However, this effect of nativity is at times overshadowed by the particular race/ethnicity of the immigrants, which is to some extent consistent with segmented assimilation (Scopilliti and Iceland 2008; White, Biddlecom, and Guo 1993; White and Sassler 2000).

The Possible Role of Mixed-Nativity Marriages

Mixed-nativity marriages have long been considered as aiding the assimilation process (Bossard 1939; Carpenter 1927; Ellis, Wright, and Parks 2006). Bean and Stevens (2003) noted that cross-nativity marriages could facilitate social integration of the foreign-born by more quickly and effectively paving their introduction to local norms and institutions. That is, consistent with the spatial assimilation model, the native-born spouse would be fully acculturated to the host society, and this in itself would facilitate the integration of the foreign-born spouse. A foreign-born individual with a native spouse is also eligible for naturalization more quickly than other immigrants, and the children of such marriages are eligible for U.S. citizenship regardless of whether they are born in the United States (Bean and Stevens 2003). Because of these factors, Bean and Stevens (2003:172) asserted that “levels of intermarriage across generational lines may in fact be an underappreciated aspect of (and shortcut to) the integration of immigrant groups into American society.” Indeed, high rates of intermarriage among earlier-wave European immigrants with white natives helped foster both the development of a pan-white ethnicity and structural assimilation of successive generations (Alba 1990; Qian and Lichter 2001). Statistics from more recent years suggest that about 29% of foreign-born men and 33% of foreign-born women have a spouse born in the United States (Bean and Stevens 2003). The rate of marriage between the native- and foreign-born has also been increasing (Qian and Lichter 2007). It is therefore important to examine whether and how increases in mixed-nativity marriages are connected with spatial assimilation of the foreign-born in metropolitan America.

In their analysis of marital partnership of immigrants using 1990 census data from Los Angeles, Ellis et al. (2006) found that marriage of a foreign-born person to someone outside the same immigrant group was positively associated with living outside a cluster of one's own immigrant group. Ellis et al. (2006) concluded that spousal characteristics are useful predictors of the spatial assimilation of immigrants in the United States.

Racial and Ethnic Intermarriage

Racial and ethnic intermarriage is often also indicative of assimilation because it can narrow differences between culturally distinct groups (Qian and Lichter 2007). The spouses involved are thought to develop sympathies with another socially defined racial or ethnic group, and these sympathies could extend across the couple's kin and friendship networks (Bean and Stevens 2003). Racial and ethnic intermarriage further affects the identities of the offspring, who may not fully share the physical or culturally distinct attributes of either of the parents. The growth in the number of biracial and multiracial children could serve to blur racial and ethnic lines over time (Alba and Nee 2003).

Over the past few decades, interracial marriage in the United States increased substantially, likely indicative of the fall of legal discriminatory barriers and changes in norms that occurred in the Civil Rights period of the 1950s and 1960s and beyond (Gullickson 2006). Racial intermarriage increased from less than 1% of all married couples in 1970 to more than 6% of couples in 2000 (Bean et al. 2004; Lee and Edmonston 2005). Using a definition of “intermarriage” that includes marriages occurring between Hispanics and non-Hispanics (the intermarriage statistics just cited omit the count of such marriages), one study reports that whites have the lowest intermarriage rates (7% have a spouse of a different race/ethnicity), followed by blacks (13%), Latinos (29%), and Asians (31%); but, in part because whites make up the largest ethnic group in the United States, a majority of intermarriages involve a white spouse (Bean et al. 2004).

In contrast to the general trend of the past few decades, Qian and Lichter (2007) noted that intermarriage rates between Hispanics and Asians with others actually declined slightly in the 1990s. They found that this decline is partly explained by the higher proportion of Hispanics and Asians who were foreign-born in 2000 than in 1990 (because the foreign-born are less likely to intermarry). Nevertheless, a higher percentage of immigrants in cross-nativity marriages also marry outside their own race/ethnicity than do couples in which both spouses are either native or foreign born. These cross-nativity, cross-ethnic marriages of the foreign-born often include a native-born white spouse. For example, more than 40% of Hispanic foreign-born wives in cross-nativity marriages are married to white men (Bean and Stevens 2003).

More generally, studies of marital selection discuss the process in terms of “marriage markets.” People “shop” for the best possible partner. As a result, spouses often match each other on a variety of characteristics (Blau 1964; Fu 2001; Kalmijn 1998). Studies of intermarriage have examined the extent to which couples exchange racial status for SES. That is, members of low-status groups may be more likely to marry lower-status members of high-status groups if they are themselves of higher SES. The empirical literature suggests that although status exchange occurred among some groups in the past, such as between blacks and whites (Fu 2001; Heer 1974), recent studies have found less support for status exchange (Fu 2008; Rosenfeld 2005). That is, racial intermarriages tend to involve spouses of similar SES, regardless of race (Fu 2008).

In their examination of interracial marriages (but not mixed-nativity ones), White and Sassler (2000) found that nonwhite householders who have a white spouse tend to reside in higher-status neighborhoods, even when other family characteristics are taken into account. They posit that this trend supports exchange theory (which seems less likely in light of the recent empirical literature mentioned earlier), a circumvention of discrimination in the housing market where the white spouse conducts the housing search, or the strength of the preference of the white spouse to live among higher-SES coethnics. Regardless of the exact mechanism, this pattern suggests that having a white spouse facilitates the movement into higher-SES neighborhoods that often also have a higher proportion of whites.

Hypotheses and Contributions

To summarize, assimilation theory would predict that mixed-nativity couples are less segregated from native non-Hispanic whites and other native-born ethnic groups than foreign-born couples. In addition, households in which immigrants are married to native-born non-Hispanic whites are likely to display particularly low levels of segregation from native-born non-Hispanic whites. Group-specific variables, such as income, are expected to play an important role in shaping patterns: the closer groups are to income parity, the lower the levels of segregation expected between them. Small nativity differences could perhaps persist even after socioeconomic status is controlled for because the data do not contain a full range of acculturation indicators, but the differences should, on the whole, be minor.

According to the ethnic disadvantage (place stratification) perspective, we would expect high levels of minority segregation from whites, and for blacks in particular, given that blacks tend to face higher levels of prejudice and discrimination than other groups in the United States (Charles 2003). The main tenet of this perspective is that racial segregation will be high regardless of nativity status, although nativity status could have some effect in itself. It is not entirely clear as to what the place stratification perspective would predict for racially mixed couples (in which one spouse is white), so we do not offer strong predictions here. If anything, we would posit that a long history of negative attitudes toward miscegenation among whites in the United States could result in the exclusion of mixed-race couples in the same manner as same-race minority couples; again, though, we do not view this as a strong test of the place stratification theory more generally.

Finally, the segmented assimilation perspective predicts very different patterns by race of the immigrant group. This perspective holds that group characteristics, such as income and English-language ability, could be important factors in the incorporation process, and racially mixed couples could be predicted to be less segregated from whites. However, because of black and Hispanic disadvantage in American society, nativity status may play a smaller role for these groups. Specifically, different groups may be assimilated into different segments of U.S. society, such that mixed-nativity black households may not experience any kind of assimilation with the mainstream (i.e., whites) but, in fact, may be absorbed by other segments of society (i.e., the native-born black population) over time (Zhou 1999). Segmented assimilation theory would also predict that same-race mixed-nativity couples may be less segregated from native-born couples of the same race because of ethnic affinity.

Our study draws on restricted-use census data that permit the calculation of the distribution of such households across neighborhoods in all U.S. metropolitan areas where there are sufficient numbers of these households. Counts of mixed-nativity and mixed-race households at the neighborhood level are simply not available in public-use decennial files. This helps explain the paucity of research on this issue. The other two studies highlighted earlier that used neighborhood-level data to examine residential patterns of mixed-race (White and Sassler 2000) or mixed-nativity (Ellis et al. 2006) couples, in fact, relied on restricted-use data.

In particular, we build on the work of Ellis et al. (2006) in two ways. First, they analyzed residential patterns in Los Angeles in 1990. Los Angeles, albeit a prominent immigrant gateway, is not representative of the range of contexts in which immigrants have settled, particularly since 1990 (Singer 2004). Second, the Ellis et al. study focused on the extent to which people lived with their own group—not their segregation from various other specific groups. Although their approach is informative, our study further investigates whether specific mixed-nativity and mixed-race marriages are associated with less segregation from different groups. In this way, we add important additional information about the extent to which mixed marriages result in *multiple* forms of residential assimilation—wherein an immigrant group can, over time and across generations, increasingly reside with a variety of native-born racial and ethnic groups (Iceland and Nelson 2008). We examine this possibility by using multiple reference groups in our segregation calculations: native-born non-Hispanic whites, blacks, Asians and Pacific Islanders, and Hispanics.

Based as it is on decennial census data, our analysis cannot definitively establish a causal link between marriage and neighborhood choices. For example, intermarried partners may be more likely to choose integrated neighborhoods; conversely, they may initially meet in such neighborhoods and then marry. However, as Ellis et al. (2006:4) argued, it is less likely in recent years that people choose marital partners from within their immediate neighborhood. They cited studies from various national contexts, such as those by Kalmijn and Flap (2001) and Bozon and Heran (1989), which show that the importance of the neighborhood as a meeting place for couples declined during the twentieth century—and indeed, a minority of couples ever shared the neighborhood environment before they married (see also Houston et al. 2006). In addition, the relationship between income and segregation levels in our multivariate analyses is not causal, either, because segregation can affect groups' levels of socioeconomic attainment. Rather, our goal is to examine the relationship between segregation and these group characteristics and to explore how these characteristics might help explain the broader association between race, nativity, and segregation.

DATA AND METHODS

This analysis relies on restricted-use data from the 2000 census. We tabulate neighborhood and metropolitan area counts of various groups as defined below, as well as compute other group and metropolitan area characteristics. We are primarily concerned with examining

the residential segregation of foreign-born and mixed-nativity married couples from native-born households by race and ethnicity in all metropolitan areas where all these households are present in sufficient numbers. We exclude counts of people in institutional group quarters, such as prisons.

Segregation indexes are computed in metropolitan areas with at least 1,000 households of each group in the comparisons because segregation indexes for metropolitan areas with small subgroup populations are less reliable than those with larger ones.¹ We present estimates for all metropolitan statistical areas (MSAs); primary metropolitan statistical areas (PMSAs); and for New England states, New England county metropolitan areas (NECMAs), together referred to hereafter as metropolitan areas (MAs) as defined by the Office of Management and Budget (OMB) on June 30, 1999. Using this definition, there are 318 MAs in the analysis.²

Census tracts—the unit of analysis within metropolitan areas—typically hold between 2,500 and 8,000 people, are defined with local input, are intended to represent neighborhoods, and typically do not change much from census to census, except to subdivide. In addition, census tracts are by far the unit most often selected by other researchers in the construction of segregation scores (e.g., Logan, Stults, and Farley 2004; Massey and Denton 1993).

The terms “immigrant” and “foreign-born” are used interchangeably in this study. We use both terms to refer to residents in the United States who were not born within the 50 United States or the District of Columbia, and/or were not born abroad to American parents. More specifically, nativity is determined by the combination of answers to two questions. The first question is, “Where was this person born?” The response categories are “In the United States” and “Outside of the United States,” and the respondent is asked to fill in the state (if born in the United States) or country of birth. The second question is, “Is this person a CITIZEN of the United States?” The respondent can indicate that he/she was born in the United States or a U.S. territory, born abroad of American parents, a U.S. citizen by naturalization, or not a citizen. “Immigrants” are those who were both born outside the United States and either are not citizens or are U.S. citizens by naturalization. For the purposes of our study, people born in Puerto Rico or other outlying territories—although U.S. citizens at birth—are coded as “foreign-born” based on the shared experiences as newcomers to mainland United States.

Mixed-nativity marriages are defined as those in which at least one spouse is foreign-born and one is native-born. We further analyze the residential patterns of mixed-nativity spouses who are of a different race. The four race/ethnicity categories in this study are non-Hispanic white, non-Hispanic black, non-Hispanic Asian and Pacific Islander, and Hispanic. For whites, blacks, and Asians and Pacific Islanders, people are classified into the respective groups if they marked only that group on the census form. Hispanic origin is determined by a separate question in the census. Individuals are defined as “Hispanic” if they report Hispanic origin, regardless of how they respond to the race question. A household with mixed-race marriage is identified as one in which the householder reports one of the four race/ethnicities as just defined, and the spouse reports another. Although it would be useful to further examine the segregation of multiracial and multiethnic individuals, this is beyond the scope of the present analysis. Few studies have looked at the segregation of

1. Random factors and geocoding errors are more likely to play a large role in determining the settlement patterns of group members when fewer members are present, causing these indexes to contain greater volatility (Massey and Denton 1988). The 1,000 group population cutoff, while inevitably somewhat arbitrary, is one chosen by a number of other studies (Frey and Myers 2002; Glaeser and Vigdor 2001; Iceland and Nelson 2008; Iceland and Scopilliti 2008).

2. The segregation estimates presented in the descriptive tables (means across all metropolitan areas) are weighted by the population size of the group in question. These weighted estimates show the average levels of segregation experienced by minority group members.

multiracial individuals, but a study by Frey and Myers (2002) indicated that multiracial individuals showed fairly low levels of segregation from non-Hispanic whites in 2000 (with a dissimilarity score of 0.33), and multiracial individuals also tended to live in fairly integrated neighborhoods in general. Thus, by excluding this population from our study, we may modestly overstate the levels of segregation of mixed-race households.

We use the dissimilarity index to measure residential patterns. The most common index in the segregation literature, the dissimilarity index is a measure of evenness. It ranges from 0 (complete integration) to 1 (complete segregation), and indicates the percentage of a group's population that would have to change residence for each neighborhood to have the same percentage of that group as the metropolitan area overall.

The groups of interest in this article are married-couple households in which both spouses are foreign-born and those in which one is foreign-born and one is native-born (i.e., mixed-nativity households). We also look at married couples in which spouses are of the same race/ethnicity versus different race/ethnicity. We use four alternative reference groups: households in which all members of the household are (or the single individual is) (1) native-born non-Hispanic white, (2) native-born non-Hispanic black, (3) native-born non-Hispanic Asian or Pacific Islander, and (4) native-born Hispanic.

Because we calculate segregation indexes only in metropolitan areas that have at least 1,000 households of the group of interest and the reference group, our tables omit many group combinations. For example, there are relatively few mixed-nativity, mixed-race households with a foreign-born black spouse married to a native-born Asian spouse in the United States. As a consequence, there are only two types of households for which we can calculate mixed-nativity and mixed-race segregation scores in more than a couple of metropolitan areas: foreign-born Hispanics and foreign-born Asians with native-born non-Hispanic white spouses.

Specification of the Statistical Model

The multivariate models examine the factors that explain metropolitan-level variation in segregation scores. We focus on whether group-specific variables—and income in particular—play a role in shaping residential patterns: groups closer to income parity are expected to have lower levels of segregation between them. The models also examine the association of other group and metropolitan characteristics with segregation levels, and test whether the descriptive findings hold when these controls are added. To estimate the relationship between segregation, nativity, race, and other factors, we estimate the following:

$$Y_{ji} = B_0 + B_1 \mathbf{X}_{ji} + B_2 \mathbf{Z}_j + e_{ji}, \quad (1)$$

where Y_{ji} is the dissimilarity score for metropolitan area j and group of interest i , \mathbf{X}_{ji} is a vector of group i characteristics in metropolitan j , and \mathbf{Z}_j is a vector of metropolitan characteristics for metropolitan area j .

For example, when we examine the segregation patterns of Hispanic intermarriage groups, for each metropolitan area with at least 1,000 group members present, there is an observation indicating the segregation of: (1) foreign-born Hispanic households, (2) mixed-nativity Hispanic households, and (3) mixed-nativity and mixed-race households in which the foreign-born spouse is Hispanic and the native-born spouse matches that of the particular reference group of interest. This yields as many as three observations per metropolitan area. We create a dummy variable indicating whether each particular metropolitan-level segregation score is for mixed-nativity households or mixed-nativity and mixed-race households (foreign-born households are the omitted group in the regression) to determine which group is more highly segregated from the reference group. Because the same metropolitan areas are included as many as three times in the models, we produce corrected standard errors by using generalized linear regression models that account for the correlated error structure (i.e., because we are using repeated, clustered observations) among the independent

variables.³ Our models are similar to those employed in some other studies (Iceland and Scopilliti 2008; Massey and Denton 1989).

As mentioned earlier, only among foreign-born Hispanics and Asians are there a sufficient number of mixed-nativity/mixed-race couples in enough metropolitan areas to include segregation indexes for these groups in the multivariate analysis, and only in reference to native-born non-Hispanic white households. Thus, in analyses of white and black foreign-born households, and in analyses of Hispanic and Asian foreign-born households wherein the reference group consists of native-born non-Hispanic black, Asian, and Hispanic households, there are only two observations per metropolitan area. We believe the structure of the upcoming tables further illuminates these decisions.

The **X**-vector variables in the regression models that represent group *i* characteristics in metropolitan area *j* include group size, median adjusted household income relative to the reference group (where income is adjusted to account for household size by using the square root of household size as the equivalence scale), and housing tenure (the percentage owning homes).⁴ In some cases, a higher median income ratio between the two groups of interest indicates greater parity (e.g., the ratio of Hispanic income to white income), but in other cases it indicates greater disparity (e.g., the ratio of Asian income to black income). Descriptive statistics in Appendix Table A1 provide more detail on these ratios, and we discuss the interpretation of these coefficients in the text. Again, we emphasize that because we are relying on cross-sectional data, we cannot claim that factors such as income affect residential patterns rather than vice versa. However, controlling for income and other group characteristics helps us isolate the implications of cross-nativity marriages in shaping residential patterns. **Z** is a vector of metropolitan area characteristics that have been shown to be associated with segregation (Frey and Farley 1996; Logan et al. 2004; Wilkes and Iceland 2004). This includes metropolitan area size, the percentage of the population that is minority, the percentage of the civilian labor force that is in manufacturing and government, the percentage of the labor force that is in the military, the percentage of the population more than 65 years old, the percentage of the population aged 18 or older that is enrolled in school, the percentage of housing units built in the past 10 years, the percentage of the metropolitan area population in the suburbs, and region of the United States. All the regression models are unweighted because our aim is to understand the factors associated with metropolitan-level variation in segregation patterns.

RESULTS

Panels a–d of Table 1 show levels of dissimilarity of Hispanic, Asian, white, and black households, respectively, by nativity and race/ethnicity of spouse in 2000. For each panel, we use a constant set of metropolitan areas for which all groups are present in sufficient numbers (at least 1,000 group members). We do this to ensure that differences in mean segregation scores across different household types are not merely a function of different sets of metropolitan areas being captured in the calculations.

The first set of columns in Table 1, panel a, shows the segregation of different kinds of Hispanic households from native-born non-Hispanic white households. Consistent with predictions of the spatial assimilation model, we see that households in which both spouses are foreign-born have the highest dissimilarity score (0.655), which is also quite high in absolute terms. A common rule of thumb is that dissimilarity scores less than 0.3 are low in an absolute sense, scores of 0.3–0.6 are moderate, and scores greater than 0.6 are high (Massey and Denton 1993). Hispanic households with a mixed-nativity marriage have a

3. We used the SAS PROC GENMOD procedure with repeated statements. Liang and Zeger (1986) originally introduced generalized estimating equations as a method of dealing with correlated data.

4. We also ran models with English proficiency, occupation, and education variables, but these were highly correlated with income, housing tenure, and nativity status. Our findings on the general effects of acculturation and socioeconomic status variables do not differ much when using alternative model specifications.

Table 1. Dissimilarity of Hispanic, Asian, Non-Hispanic White, and Black Households by Nativity and Race/Ethnicity of Spouse and Reference Group, 2000

Variable	Reference Group: Native-born Non-Hispanic White Households		Reference Group: Native-born Non-Hispanic Black Households		Reference Group: Native-born Non-Hispanic Asian Households		Reference Group: Native-born Hispanic Households	
	Number of Metro Areas		Number of Metro Areas		Number of Metro Areas		Number of Metro Areas	
	D Index		D Index		D Index		D Index	
a. Hispanic Households								
Foreign-born household, both spouses Hispanic	28	0.655	28	0.616	28	0.733	28	0.434
Mixed-nativity marriage, both spouses Hispanic	28	0.614	28	0.598	28	0.727	28	0.344
Mixed-nativity and mixed-race marriage, native-born reference group member and Hispanic	28	0.423	—	—	—	—	—	—
b. Asian Households								
Foreign-born household, both spouses non-Hispanic Asian	15	0.548	15	0.677	15	0.529	15	0.564
Mixed-nativity marriage, both spouses non-Hispanic Asian	15	0.605	15	0.726	15	0.491	15	0.627
Mixed-nativity and mixed-race marriage, native-born reference group member and Asian	15	0.408	—	—	—	—	—	—
c. Non-Hispanic White Households								
Foreign-born household, both spouses non-Hispanic white	29	0.453	29	0.786	29	0.648	29	0.643
Mixed-nativity marriage, both spouses non-Hispanic white	29	0.257	29	0.740	29	0.633	29	0.596
d. Black Households								
Foreign-born household, both spouses non-Hispanic black	10	0.862	10	0.584	10	0.876	10	0.741
Mixed-nativity marriage, both spouses non-Hispanic black	10	0.815	10	0.516	10	0.857	10	0.738

Notes: Includes metropolitan areas with at least 1,000 members of each group in the table (the weighted total). Weighted means are weighted by the size of the group in question. Higher values indicate greater segregation.

moderately lower dissimilarity score at 0.614, and households in which a foreign-born Hispanic individual has a native-born non-Hispanic white spouse have even lower levels of segregation from native-born non-Hispanic white households, at 0.423.

The remaining columns in panel a of Table 1 show Hispanic segregation from alternative reference groups: native-born non-Hispanic black, non-Hispanic Asian, and Hispanic

households. As noted earlier, insufficient numbers of foreign-born Hispanics are married to native-born Asians or blacks to include dissimilarity scores for these households. Panel a of Table 1 shows that mixed-nativity Hispanic households are less segregated from these alternative reference groups than are foreign-born Hispanic couples. However, the differences are rather slight when the reference group consists of black and Asian households. Levels of segregation from native-born Hispanic households are moderate among foreign-born Hispanic households (0.434) and lower yet among mixed-nativity Hispanic households (0.344).

Panel b of Table 1 shows that patterns differ somewhat among Asian households. Households with foreign-born spouses are actually less segregated from native-born non-Hispanic whites (0.548) than mixed-nativity Asian households (0.605). However, households with a foreign-born Asian individual with a native-born non-Hispanic white spouse display fairly low levels of segregation from native-born non-Hispanic white households (0.408). It is not clear why we observe the highest levels of segregation among the same-race mixed-nativity households; among mixed-nativity couples, there could be differential selection into same-race versus cross-race marriages, which is associated with residential preferences for neighborhoods of different compositions.

Similar to the patterns of Asian-white segregation, we see that mixed-nativity Asian households are more segregated from blacks and Hispanics than foreign-born Asian households. In contrast, mixed-nativity Asian couples are modestly less segregated from native-born Asian households (0.491) than are foreign-born Asian couples (0.529).

Panel c indicates that mixed-nativity non-Hispanic white households are less segregated from all reference groups than are foreign-born non-Hispanic white households, although the assimilation pattern is strongest when the reference group consists of native-born non-Hispanic white households. The dissimilarity of mixed-nativity white households from native-born non-Hispanic white ones is low in absolute terms (0.257), and dissimilarity from black (0.740) and Asian (0.633) households is high in absolute terms.

Panel d indicates that mixed-nativity non-Hispanic black households are modestly less segregated from native-born white, black, and Asian households than are foreign-born black households. There is little difference by nativity when Hispanics are the reference group. More generally, panel d shows that both foreign-born and mixed-nativity black households are extremely segregated from other racial/ethnic groups (ranging from 0.738 to 0.876).

Overall, results from the four descriptive tables indicate that nativity status matters in many, although not all, cases. The general pattern is that mixed-nativity couples are less segregated from various native-born reference groups than foreign-born households even though Asians remain an exception. Foreign-born Asians and Hispanics with native-born non-Hispanic white spouses are considerably less segregated from white households than other Asian and Hispanic households. Even though nativity status may matter, foreign-born and mixed-nativity black households both display high levels of segregation from all other racial/ethnic groups.

Multivariate Analyses

Table 2 shows results from generalized linear regressions in which Hispanic dissimilarity from various native-born reference groups is the dependent variable. Model 1 confirms findings from the descriptive statistics in Table 1: mixed-nativity and mixed-race households (in which the partner is native-born non-Hispanic white) are less segregated from native-born non-Hispanic whites than Hispanic households in which both spouses are foreign-born. For example, households with a foreign-born Hispanic individual and a native-born non-Hispanic white spouse have dissimilarity scores that are 0.175 lower than do households in which both Hispanic partners are foreign-born.

Results from Model 2 indicate that group-specific and metropolitan-level characteristics explain some of these differences, since the magnitude of the nativity-related

Table 2. Generalized Linear Regressions With Levels of Dissimilarity of Hispanic Households, by Nativity and Race/Ethnicity of Spouse and Reference Group: Dissimilarity, 2000

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	0.616** (0.011)	0.248 (0.164)	0.625** (0.013)	0.325 (0.317)	0.718** (0.014)	0.473 (0.276)	0.453** (0.012)	-0.183 (0.231)
Nativity								
Foreign-born household, both spouses Hispanic (omitted)								
Mixed-nativity marriage, both spouses Hispanic	-0.037** (0.011)	0.015 (0.013)	-0.021 (0.013)	0.003 (0.022)	-0.004 (0.011)	-0.010 (0.021)	-0.077** (0.013)	0.010 (0.025)
Mixed-nativity and mixed-race marriage, native-born reference group member and Hispanic	-0.175** (0.010)	-0.064* (0.030)	—	—	—	—	—	—
Other Group-Specific Characteristics								
Ratio of median adjusted household income to that of reference group		-0.238** (0.065)		0.020 (0.053)		-0.066 (0.077)		-0.032 (0.062)
% owning a home		-0.078 (0.055)		-0.111 (0.096)		0.088 (0.083)		-0.343** (0.071)
Group size (10,000s)		-0.008 (0.009)		-0.014 (0.012)		0.003 (0.006)		-0.021 (0.012)
Metropolitan Area Characteristics								
Log of total population		0.046** (0.009)		0.042** (0.015)		0.024 (0.018)		0.052** (0.012)
% minority		-0.150** (0.044)		0.121 (0.114)		-0.361** (0.081)		-0.137* (0.066)
% in manufacturing		0.079 (0.158)		-0.718* (0.287)		-0.339 (0.222)		0.004 (0.195)
% in government		0.403 (0.264)		0.061 (0.406)		-0.631* (0.290)		0.958** (0.318)
% in military		-0.500 (0.447)		-1.344* (0.584)		-0.893 (0.954)		-1.277** (0.475)
% older than age 65		0.104 (0.174)		0.042 (0.334)		0.660 (0.794)		0.455 (0.307)
% of population enrolled in college		-0.257 (0.443)		-1.072 (0.809)		1.021 (0.782)		-0.448 (0.714)
% of housing units built in past 10 years		-0.151 (0.084)		-0.597** (0.163)		-0.081 (0.129)		0.093 (0.129)
% of population in suburbs		-0.046 (0.030)		0.042 (0.054)		-0.060 (0.051)		0.083* (0.041)

(continued)

(Table 2, continued)

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Region								
West (omitted)								
Northeast		0.013 (0.019)		-0.055 (0.046)		0.081** (0.028)		-0.058 (0.030)
Midwest		0.134** (0.027)		0.246** (0.048)		0.132** (0.037)		0.098** (0.033)
South		-0.015 (0.015)		0.063* (0.030)		0.139** (0.032)		0.027 (0.022)
Log-Likelihood	193.593	309.264	87.146	145.147	56.022	97.196	109.291	180.677
df	226	211	140	125	57	42	155	140

Notes: The unit of analysis is the segregation score for a race/ethnicity and nativity group in a given metropolitan area. Includes metropolitan areas with at least 1,000 members of the groups in question.

* $p < .05$; ** $p < .01$

coefficients is reduced (and the mixed-nativity one becomes statistically insignificant). Of the group-specific characteristics, we see that consistent with the spatial assimilation model, in metropolitan areas where the ratio of the income of the Hispanic group in question approaches that of native-born non-Hispanic whites, segregation between the Hispanic groups and native-born whites is lower. Among the metropolitan characteristics in the model, we see higher levels of segregation in larger metropolitan areas and in the Midwest, and lower levels of segregation in places with larger minority populations (when we also control for the size of the Hispanic group of interest itself).

When considering alternative reference groups (Models 3–8), the only significant nativity-related coefficient is the one for which native-born Hispanic households are the reference group (Model 7). Model 7 indicates that Hispanic households with a mixed-nativity marriage are less segregated (dissimilarity scores are 0.077 lower) from native-born Hispanic households than are foreign-born Hispanic households. That coefficient becomes insignificant when other group and metropolitan area characteristics are added (Model 8). In Model 8, homeownership is associated with lower levels of segregation from native-born Hispanics. Across various models, the most consistent controls that are associated with levels of segregation are population size, percentage minority, and Midwest region, as well as percentage of the metropolitan area population in the military, which has a strong negative association with segregation in two of the four models.

Table 3 shows results for non-Hispanic Asian households. As shown in the descriptive table (Table 1, panel b), Asians in mixed-nativity marriages with coethnics are more segregated from native-born non-Hispanic whites than are foreign-born Asian households, yet those in mixed-nativity marriage with whites are less segregated from native-born white households. These relationships persist after controls are added in Model 2. Although Asians in mixed-nativity marriages are also more segregated from non-Hispanic blacks and Hispanics than foreign-born Asian households, these associations become statistically insignificant when control variables are added (Models 4 and 8). Mixed-nativity status has no significant relationship with levels of segregation from native-born non-Hispanic Asian households (Models 5 and 6).

Table 3. Generalized Linear Regressions With Levels of Dissimilarity of Non-Hispanic Asian Households, by Nativity and Race/Ethnicity of Spouse and Reference Group: Dissimilarity, 2000

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	0.570** (0.008)	-0.021 (0.178)	0.678** (0.014)	-0.340 (0.203)	0.563** (0.018)	-0.424 (0.342)	0.615** (0.011)	-0.138 (0.219)
Nativity								
Foreign-born household, both spouses non-Hispanic Asian (omitted)								
Mixed-nativity marriage, both spouses non-Hispanic Asian	0.097** (0.032)	0.096** (0.033)	0.066* (0.032)	0.049 (0.030)	0.008 (0.034)	-0.066 (0.050)	0.074* (0.034)	0.057 (0.040)
Mixed-nativity and mixed-race marriage, native-born reference group member and non-Hispanic Asian	-0.100** (0.011)	-0.121** (0.026)	—	—	—	—	—	—
Other Group-Specific Characteristics								
Ratio of median adjusted household income to that of reference group		0.083 (0.055)		0.164** (0.029)		0.022 (0.065)		0.090** (0.026)
% owning a home		0.020 (0.084)		-0.103 (0.094)		0.117 (0.175)		-0.046 (0.102)
Group size (10,000s)		-0.009 (0.011)		0.002 (0.008)		-0.026 (0.015)		-0.016 (0.009)
Metropolitan Area Characteristics								
Log of total population		0.025* (0.010)		0.059** (0.013)		0.071** (0.023)		0.044** (0.014)
% minority		-0.106* (0.049)		0.090 (0.065)		-0.127 (0.084)		-0.114 (0.066)
% in manufacturing		-0.014 (0.221)		-0.351 (0.204)		-0.116 (0.266)		-0.021 (0.222)
% in government		-0.103 (0.216)		0.280 (0.361)		0.416 (0.346)		0.552 (0.332)
% in military		-0.052 (0.457)		-0.629 (0.889)		-0.589 (1.208)		-1.863* (0.899)
% older than age 65		0.612* (0.288)		0.379 (0.309)		-1.503 (1.154)		0.087 (0.383)
% of population enrolled in college		1.045* (0.519)		-0.804 (0.665)		0.738 (1.113)		0.327 (0.767)
% of housing units built in past 10 years		0.089 (0.103)		-0.264** (0.094)		0.178 (0.215)		-0.136 (0.135)
% of population in suburbs		-0.057 (0.033)		0.037 (0.038)		-0.033 (0.068)		-0.067 (0.044)

(continued)

(Table 3, continued)

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Region								
West (omitted)								
Northeast		0.074** (0.021)		0.065* (0.031)		0.171** (0.054)		0.050 (0.036)
Midwest		0.099** (0.021)		0.150** (0.029)		0.126** (0.049)		0.116** (0.029)
South		0.067** (0.015)		0.122** (0.022)		0.060 (0.058)		0.074** (0.024)
Log-Likelihood	170.133	216.633	58.828	126.613	34.090	63.393	78.484	125.570
df	161	146	91	76	46	31	90	75

Notes: The unit of analysis is the segregation score for a race/ethnicity and nativity group in a given metropolitan area. Includes metropolitan areas with at least 1,000 members of the groups in question.

* $p < .05$; ** $p < .01$

Notably, higher incomes among Asian relative to blacks and Hispanics are associated with higher levels of segregation from those respective groups. This sign of this variable is in the expected direction, given that Asian median incomes are *higher* than black and Hispanic incomes, and a greater income ratio thus indicates greater disparities in income (see descriptive statistics in Appendix Table A1). Turning to the control variables that are consistently associated with levels of segregation, we find that metropolitan areas in the Northeast, Midwest, and South have higher levels of Asian segregation than those in the West. Larger metropolitan areas also have higher levels of segregation.

Table 4 shows that non-Hispanic white households with mixed-nativity marriages are considerably less segregated from native-born non-Hispanic whites than are households with two foreign-born spouses. White mixed-nativity households are less segregated from black and Hispanic households as well, even after controls are added. Higher relative incomes are associated with higher levels of segregation from native-born white, black, and Hispanic households. Again, both mixed-nativity and foreign-born white households have higher median incomes than these native-born groups. Thus, the sign of the income coefficient is in the expected direction (i.e., greater income disparities are associated with higher levels of segregation). Homeownership is associated with lower levels of segregation from native-born white households. Among other control variables, we once again see that larger metropolitan areas have higher levels of segregation, and those with a higher proportion of people in the military or in college have lower levels of segregation in at least two of the four models. Metropolitan areas in the Midwest have consistently higher levels of segregation than those in the West, and those in the Northeast and South have higher levels in at least two of the four models.

Finally, Table 5 shows results for non-Hispanic blacks. In models with controls, mixed-nativity black households are less segregated from native-born white, black, and Hispanic households. The coefficient is also negative when Asians are the reference group, but the relationship is statistically insignificant, likely in part because of the small number of metropolitan areas with sufficient numbers of Asians to be included in

Table 4. Generalized Linear Regressions With Levels of Dissimilarity of Non-Hispanic White Households, by Nativity and Race/Ethnicity of Spouse and Reference Group: Dissimilarity, 2000

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	0.437** (0.011)	0.376** (0.139)	0.740** (0.010)	0.225 (0.134)	0.615** (0.023)	-0.249 (0.416)	0.627** (0.010)	-0.063 (0.185)
Nativity								
Foreign-born household, both spouses non-Hispanic white (omitted)								
Mixed-nativity marriage, both spouses non-Hispanic white	-0.161** (0.010)	-0.121** (0.012)	-0.063** (0.009)	-0.065** (0.011)	-0.019 (0.010)	0.002 (0.030)	-0.055** (0.008)	-0.092** (0.018)
Other Group-Specific Characteristics								
Ratio of median adjusted household income to that of reference group		0.093** (0.035)		0.086** (0.016)		-0.009 (0.056)		0.132** (0.016)
% owning a home		-0.388** (0.065)		-0.036 (0.054)		0.033 (0.148)		-0.034 (0.079)
Group size (10,000s)		-0.022** (0.006)		-0.001 (0.004)		-0.013 (0.014)		-0.011 (0.007)
Metropolitan Area Characteristics								
Log of total population		0.027** (0.008)		0.039** (0.007)		0.039 (0.030)		0.040** (0.011)
% minority		-0.064 (0.038)		0.054 (0.040)		-0.088 (0.106)		-0.001 (0.043)
% in manufacturing		0.126 (0.121)		-0.171 (0.134)		-0.102 (0.451)		0.104 (0.149)
% in government		0.304* (0.118)		0.062 (0.163)		0.506 (0.709)		0.270 (0.221)
% in military		-0.533* (0.259)		-1.100** (0.274)		-0.787 (1.503)		-0.752* (0.313)
% older than age 65		-0.472** (0.136)		0.226 (0.147)		0.598 (1.425)		0.061 (0.192)
% of population enrolled in college		-0.441** (0.145)		-0.982** (0.266)		0.788 (1.349)		-0.568 (0.380)
% of housing units built in past 10 years		0.016 (0.066)		-0.381** (0.072)		0.350 (0.272)		-0.037 (0.108)
% of population in suburbs		-0.082** (0.022)		0.014 (0.028)		0.012 (0.103)		-0.017 (0.034)

(continued)

the models. In contrast to all the previous tables, and contrary to expectations, in metropolitan areas where the black groups have a higher ratio of income relative to native-born whites, levels of segregation from native-born whites are higher. It is not clear what explains this association: it is not consistent with predictions of the spatial assimilation

(Table 4, continued)

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Region								
West (omitted)								
Northeast		0.031* (0.015)		0.027 (0.019)		0.233** (0.065)		0.022 (0.027)
Midwest		0.091** (0.014)		0.115** (0.017)		0.210** (0.049)		0.089** (0.020)
South		0.056** (0.010)		0.041** (0.013)		0.148* (0.075)		0.028 (0.016)
Log-Likelihood	299.949	424.572	213.455	356.316	42.845	76.577	203.155	286.984
df	257	242	235	220	60	45	199	184

Notes: The unit of analysis is the segregation score for a race/ethnicity and nativity group in a given metropolitan area. Includes metropolitan areas with at least 1,000 members of the groups in question.

* $p < .05$; ** $p < .01$

model. As in previous tables, we once again see that larger metropolitan areas tend to have higher levels of segregation.

Overall, results from the four multivariate analysis tables support the patterns displayed in the descriptive tables and illuminate some group-level characteristics (e.g., income parity) and metropolitan area characteristics (e.g., region) that in some cases help mediate the relationship between mixed-nativity marriage and residential segregation. In results not shown here, regression analyses including only the segregation variables and group characteristics (without metropolitan area factors) indicated that the metropolitan area factors are stronger in attenuating the link between nativity and segregation than the group characteristics of group size, income, and homeownership.

CONCLUSION

In this article, we examined the residential patterns of mixed-nativity marriage households to determine whether they are less segregated from the native-born than are foreign-born marriage households. We further investigated whether households with mixed-nativity *and* mixed-race/ethnicity marriages have even lower levels of segregation when the native-born spouse is the same race as the reference group being considered. The existing literature on this issue is thin, in large part owing to limitations in existing data sources. Our analysis relies on restricted-use data from the 2000 census that provide geographically detailed counts of various groups not available in conventional public-use census data files. Our analyses aim to shed light on three competing theoretical models: spatial assimilation, place stratification, and segmented assimilation.

Our results indicate that nativity status among married couples matters in many cases. When significant, the general pattern is that mixed-nativity couples are less segregated from various reference groups than foreign-born households, and that greater income parity between groups tends to be associated with lower segregation between them. Taken together, our results suggest mixed-nativity marriage households often live in a wider array of neighborhoods than foreign-born households, which are more likely to cluster

Table 5. Generalized Linear Regressions With Levels of Dissimilarity of Black Households, by Nativity and Race/Ethnicity of Spouse and Reference Group: Dissimilarity, 2000

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	0.827** (0.021)	0.244 (0.423)	0.628** (0.027)	0.039 (0.540)	0.854** (0.018)	-6.288 (4.949)	0.749** (0.024)	-0.009 (0.547)
Nativity								
Foreign-born household, both spouses non-Hispanic black (omitted)								
Mixed-nativity marriage, both spouses non-Hispanic black	-0.028 (0.015)	-0.045** (0.013)	-0.919** (0.017)	-0.124** (0.016)	-0.007 (0.016)	-0.040 (0.042)	-0.013 (0.016)	-0.035** (0.013)
Other Group-Specific Characteristics								
Ratio of median adjusted household income to that of reference group		0.190** (0.071)		0.042 (0.060)		0.004 (0.184)		0.034 (0.033)
% owning a home		-0.093 (0.084)		0.032 (0.095)		0.182 (0.269)		0.047 (0.070)
Group size (10,000s)		-0.066 (0.036)		-0.125** (0.038)		-0.022 (0.025)		-0.075 (0.039)
Metropolitan Area Characteristics								
Log of total population		0.035* (0.017)		0.060* (0.024)		0.029 (0.025)		0.074** (0.026)
% minority		0.040 (0.116)		-0.131 (0.115)		-2.234 (1.687)		0.162 (0.129)
% in manufacturing		0.381 (0.454)		-0.162 (0.401)		2.497 (1.906)		0.302 (0.511)
% in government		0.415 (0.729)		0.262 (0.491)		-2.615* (1.217)		-0.155 (0.838)
% in military		-2.560 (1.594)		-1.512 (1.132)		58.764 (39.326)		-1.091 (2.067)
% older than age 65		0.300 (0.468)		-0.161 (0.500)		14.937* (7.235)		-0.435 (0.488)
% of population enrolled in college		0.193 (0.902)		0.183 (1.173)		44.715 (31.728)		-1.368 (1.296)
% of housing units built in past 10 years		-0.310 (0.467)		0.349 (0.358)		9.708 (6.495)		-0.746 (0.500)
% of population in suburbs		-0.181* (0.081)		-0.352** (0.077)		-2.061 (1.419)		-0.069 (1.113)

(continued)

with foreign-born coethnics. Asians are an exception, for which same-race, mixed-nativity households are more segregated from white, black, and Hispanic households, although the relationship becomes insignificant in the latter two analyses after other group and metropolitan area characteristics are controlled. Foreign-born Asians, on the whole, are only

(Table 5, continued)

Variable	Reference Group: Native-born Non-Hispanic Whites		Reference Group: Native-born Non-Hispanic Blacks		Reference Group: Native-born Non-Hispanic Asians		Reference Group: Native-born Hispanics	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Region								
West (omitted)								
Northeast		0.054 (0.064)		-0.077 (0.062)		0.147 (0.152)		-0.077 (0.070)
Midwest		0.069 (0.037)		0.015 (0.030)		0.000 (0.000)		0.055 (0.031)
South		0.026 (0.039)		-0.029 (0.052)		0.000 (0.000)		0.035 (0.048)
Log-Likelihood	39.938	71.665	35.364	65.950	33.874	43.261	35.797	66.932
df	37	22	37	22	19	6	37	22

Notes: The unit of analysis is the segregation score for a race/ethnicity and nativity group in a given metropolitan area. Includes metropolitan areas with at least 1,000 members of the groups in question.

* $p < .05$; ** $p < .01$

moderately segregated from whites and Hispanics (and not extremely segregated from blacks); this could contribute to the small differences in segregation by household nativity. In addition, mixed-nativity status matters in the predicted manner for Asians who marry whites (as described below).

We also find that even though nativity status matters for blacks, both foreign-born and mixed-nativity black households experience very high levels of segregation from all other racial/ethnic groups, and in no case is income significantly associated with segregation in the way predicted by assimilation theory. This points to the persistent salience of race in determining levels of segregation in metropolitan America.

Our analyses of mixed-nativity households that also contain mixed-race spouses were confined to foreign-born Asians and Hispanics married to native-born non-Hispanic whites. These were the only group combinations with sufficient numbers in more than a couple of metropolitan areas to analyze. Our results show that Asians and Hispanics with native white spouses were considerably less segregated from native white households than any other type of Asian or Hispanic household.

As is often the case in contemporary studies of segregation—and indeed in studies of race issues more generally—we can point to elements in our results that provide support for alternative theoretical perspectives. In this conclusion, we highlight what we believe is the dominant story while still describing areas where interpretations can reasonably differ depending on one's point of emphasis. Overall, our findings are broadly consistent with spatial assimilation theory and with results from Ellis et al. (2006)—to our knowledge, the only other recent study that examined the neighborhood-level residential patterns of mixed-nativity households—although their study was confined to 1990 data from Los Angeles. That is, mixed-nativity couples tend to be less segregated from whites than foreign-born couples among three of our four groups (whites, blacks, and Hispanics, but not Asians). Mixed-nativity and mixed-race couples (in which one of the couple is white) show particularly low levels of segregation from whites. The effect of group income ratios often works in a manner consistent with assimilation. Moreover, because we further examined segregation

vis-à-vis alternative reference groups, we also find some evidence for the *multiple forms* of assimilation—that households with mixed-nativity marriages are less segregated from more than one other racial/ethnic group than the foreign-born.

One element of our results that is consistent with place stratification is the particularly high levels of black segregation from others: this supports findings on racial residential preferences and is consistent with previous work on discrimination in the housing market (Charles 2003; Ross and Turner 2005). Income is another characteristic that does not work in the manner predicted by assimilation among black households, and it is only sometimes significant in the regressions for other groups. Thus, income is generally less important in explaining levels of segregation among cross-nativity households than among immigrants or racial and ethnic groups more generally (Iceland and Scopilliti 2008; Iceland and Wilkes 2006).

Likewise, some of our findings support segmented assimilation. Important differences exist in levels of segregation across racial and ethnic groups; mixed-nativity couples display relatively low levels of segregation from native-born households of the same race; and more the focus here, mixed nativity does not work in the same direction for all groups (Asians are the exception). Nevertheless, support for segmented assimilation is also equivocal. As mentioned earlier, we often see *multiple* forms of assimilation rather than *divergent* forms predicted by segmented assimilation. In other words, while segmented assimilation posits that groups will be absorbed by different segments in society, “multiple” forms of assimilation indicates a reduction in, for example, Hispanic segregation vis-à-vis more than one group. The process is such that Hispanics, over time and generations, may live in neighborhoods with fewer Hispanics and with a greater number of not just whites but also other groups, such as blacks.

The finding that same-race, mixed-nativity Asian couples are more segregated from other groups than are same-race, foreign-born Asian couples needs to be considered in tandem with the finding that mixed-nativity, mixed-race Asian-white couples show relatively low levels of segregation from white households. We venture that a selection process might be at work here: foreign-born Asians who are more “open” to assimilation may be more likely to marry out of the ethnic group altogether, while those who are less open to it may be more inclined to marry within the group—regardless of the nativity status of the Asian spouse. That being said, we acknowledge that our results on this issue are far from definitive.

In short, and with these caveats in mind, we conclude that to a moderate extent, having a native-born spouse is associated with living outside a foreign-born ethnic enclave and living in more integrated environments. This suggests that cross-nativity marriages could facilitate social integration of the foreign-born by more quickly and effectively paving their introduction to local norms and institutions (Bean and Stevens 2003). Indeed, mixed-nativity marriages that cross racial/ethnic lines seem to be all the more likely to live in integrated areas, signaling even less social distance between groups. And because mixed-nativity marriages have been increasing in recent years (Qian and Lichter 2007), we might further expect that such marriages will play a progressively more important role in the residential incorporation process in the coming years.

Future research on this topic could proceed along several avenues. First, it will be important to track changes in marital patterns among immigrants and the native-born. In particular, Qian and Lichter (2007) found that the 1990s was a decade of change: rising rates of within-ethnic group marriage, largely spurred by a surge of immigration in that decade, as well as the aforementioned increase in mixed-nativity marriages. Whether these kinds of patterns will persist is an open question. Second, it would be informative to look at the residential patterns of cohabiting couples, including mixed-nativity cohabitators. Some research suggests that compared with married couples, cohabiting couples are more likely to be of mixed race (Harris and Ono 2000) and tend to live in more integrated environments.

The contribution of mixed-nativity and mixed-race cohabiting to immigrant incorporation is as yet unknown. Finally, an analysis that uses some kind of restricted-use longitudinal microdata could shed light on individual- and household-level processes that result in mixed-nativity and/or mixed-race partnering; and in turn, how such partnering might lead to household residential decisions that in the aggregate reduce segregation between groups.

Appendix Table A1. Metropolitan-Level Descriptive Statistics, 2000

Variable	<i>N</i>	Mean
Median Household-Size-Adjusted Household Income		
Native non-Hispanic white households	318	29,621
Native non-Hispanic black households	248	17,757
Native non-Hispanic Asian households	33	34,765
Native Hispanic households	154	19,846
Mixed-nativity marriage	237	32,251
Both spouses non-Hispanic white	176	38,611
Both spouses non-Hispanic black	20	32,865
Both spouses Hispanic	73	22,163
Both spouses non-Hispanic Asian	15	43,445
Spouses of different races	155	33,932
Native non-Hispanic white and foreign Hispanic	72	34,988
Native non-Hispanic white and foreign non-Hispanic Asian	71	41,114
Foreign-born married household	165	25,000
Both spouses non-Hispanic white	83	31,733
Both spouses non-Hispanic black	19	28,431
Both spouses Hispanic	84	18,246
Both spouses non-Hispanic Asian	78	33,088
Proportion Owning a Home		
Native non-Hispanic white households	318	0.72
Native non-Hispanic black households	248	0.44
Native non-Hispanic Asian households	33	0.54
Native Hispanic households	154	0.45
Mixed-nativity marriage	237	0.78
Both spouses non-Hispanic white	176	0.86
Both spouses non-Hispanic black	20	0.63
Both spouses Hispanic	73	0.62
Both spouses non-Hispanic Asian	15	0.75
Spouses of different races	155	0.73
Native non-Hispanic white and foreign Hispanic	72	0.74
Native non-Hispanic white and foreign non-Hispanic Asian	71	0.79
Foreign-born married household	165	0.55
Both spouses non-Hispanic white	83	0.70
Both spouses non-Hispanic black	19	0.52
Both spouses Hispanic	84	0.42
Both spouses non-Hispanic Asian	78	0.53

(continued)

(Appendix Table A1, continued)

Variable	N	Mean
Metropolitan Area Characteristics		
Log of the total population	318	11.82
Proportion minority	318	0.25
Functional specialization		
Proportion in manufacturing	318	0.14
Proportion in government	318	0.16
Proportion in military	318	0.01
Proportion retired	318	0.12
Proportion enrolled in college/university	318	0.13
Proportion of houses built in past 10 years	318	0.18
Proportion of metropolitan area in the suburbs	318	0.59
Region		
Northeast	318	0.15
Midwest	318	0.25
South	318	0.40
West	318	0.20

Notes: Includes metropolitan areas with at least 1,000 (weighted) group members. The means are unweighted.

REFERENCES

- Alba, R. 1990. *Ethnic Identity: The Transformation of White America*. New Haven, CT: Yale University Press.
- Alba, R. and J. Logan. 1991. "Variations on Two Themes: Racial and Ethnic Patterns in the Attainment of Suburban Residence." *Demography* 28:431–53.
- Alba, R. and V. Nee. 2003. *Remaking the American Mainstream*. Cambridge, MA: Harvard University Press.
- Bean, F.D. and G. Stevens. 2003. *America's Newcomers and the Dynamics of Diversity*. New York: Russell Sage Foundation.
- Bean, F.D., J. Lee, J. Batalova, and M. Leach. 2004. *The American People: Immigration and Fading Color Lines in America*. New York: Russell Sage Foundation.
- Blau, P.M. 1964. *Exchange and Power in Social Life*. New York: John Wiley.
- Bobo, L. and C. Zubrinsky. 1996. "Attitudes on Residential Integration: Perceived Status Differences, Mere In-Group Preference, or Racial Prejudice?" *Social Forces* 74:883–909.
- Bossard, J.H. 1939. "Nationality and Nativity as Factors in Marriage." *American Sociological Review* 4:792–98.
- Bozon, M. and F. Heran. 1989. "Finding a Spouse: A Survey of How French Couples Meet." *Population* 44:91–121.
- Carpenter, N. 1927. *Immigrants and Their Children, 1920*. Washington, DC: U.S. Government Printing Office.
- Castles, S. and M.J. Miller. 2003. *The Age of Migration*, 3rd edition. New York: Guilford Press.
- . 2003. "The Dynamics of Racial Residential Segregation." *Annual Review of Sociology* 29:167–207.
- . 2006. *Won't You Be My Neighbor: Race, Class, and Residence in Los Angeles*. New York: Russell Sage.
- Clark, W.A.V. 1986. "Residential Segregation in American Cities: A Review and Interpretation." *Population Research and Policy Review* 5:95–127.

- . 1988. "Understanding Residential Segregation in American Cities: Interpreting the Evidence, A Reply to Galster." *Population Research and Policy Review* 7:113–21.
- Crowder, K.D. 1999. "Residential Segregation of West Indians in the New York/New Jersey Metropolitan Area: The Roles of Race and Ethnicity." *International Migration Review* 33:79–113.
- Denton, N. and D.S. Massey. 1988. "Residential Segregation of Blacks, Hispanics, and Asians by Socioeconomic Status and Generation." *Social Science Quarterly* 69:797–817.
- . 1989. "Racial Identity Among Caribbean Hispanics: The Effect of Double Minority Status on Residential Segregation." *American Sociological Review* 54:790–808.
- Ellis, M., R. Wright, and V. Parks. 2006. "The Immigrant Household and Spatial Assimilation: Partnership, Nativity, and Neighborhood Location." *Urban Geography* 27:1–19.
- Farley, R., C. Steeh, M. Krysan, T. Jackson, and K. Reeves. 1994. "Stereotypes and Segregation: Neighborhoods in the Detroit Area." *American Journal of Sociology* 100:750–80.
- Frey, W.H. and R. Farley. 1996. "Latino, Asian, and Black Segregation in U.S. Metropolitan Areas: Are Multiethnic Metros Different?" *Demography* 33:35–50.
- Frey, W.H. and D. Myers. 2002. "Neighborhood Segregation in Single-Race and Multirace America: A Census 2000 Study in Cities and Metropolitan Areas." Fannie Mae Foundation Working Paper. Fannie Mae Foundation, Washington DC.
- Fu, V.K. 2001. "Racial Inter-marriage Pairings." *Demography* 38:147–59.
- Fu, X. 2008. "Interracial Marriage and Family Socio-economic Well-being: Equal Status Exchange or Caste Status Exchange?" *Social Science Journal* 45:132–55.
- Galster, G. 1988. "Residential Segregation in American Cities: A Contrary Review." *Population Research and Policy Review* 7:93–112.
- Glaeser, E.L. and J. Vigdor. 2001. "Racial Segregation in the 2000 Census: Promising News." Brookings Institution Survey Series. Center on Urban and Metropolitan Policy, The Brookings Institution, Washington, DC. Available online at <http://www.brook.edu/es/urban/census/glaeser.pdf>.
- Gordon, M. 1964. *Assimilation in American Life: The Role of Race, Religion, and National Origins*. New York: Oxford University Press.
- Gullickson, A. 2006. "Black/White Interracial Marriage Trends, 1850–2000." *Journal of Family History* 31:289–312.
- Harris, D.R. and H. Ono. 2000. "Cohabitation, Marriage and Markets: A New Look at Intimate Interracial Relationships." Paper presented at the annual meeting of the Population Association of America, Los Angeles, March 23–25.
- Heer, D.M. 1974. "The Prevalence of Black-White Marriage in the United States, 1960 and 1970." *Journal of Marriage and the Family* 36:246–58.
- Houston, S., R. Wright, M. Ellis, S. Holloway, and M. Hudson. 2006. "Places of Possibility: Where Mixed-Race Partners Meet." *Progress in Human Geography* 29:700–17.
- Iceland, J. 2009. *Where We Live Now: Immigration and Race in the United States*. Berkeley, CA: University of California Press.
- Iceland, J. and K.A. Nelson. 2008. "Hispanic Segregation in Metropolitan America: Exploring the Multiple Forms of Spatial Assimilation." *American Sociological Review* 73:741–65.
- Iceland, J. and M. Scopilliti. 2008. "Immigrant Residential Segregation in U.S. Metropolitan Areas, 1990–2000." *Demography* 45:79–94.
- Iceland, J., D.H. Weinberg, and E. Steinmetz. 2002. "Racial and Ethnic Residential Segregation in the United States: 1980–2000." U.S. Census Bureau, Census Special Report, CENSR-3. Washington, DC: U.S. Government Printing Office.
- Iceland, J. and R. Wilkes. 2006. "Does Socioeconomic Status Matter? Race, Class, and Residential Segregation." *Social Problems* 52:248–73.
- Kalmijn, M. 1998. "Inter-marriage and Homogamy: Causes, Patterns, and Trends." *Annual Review of Sociology* 24:395–421.
- Kalmijn, M. and H. Flap. 2001. "Assortative Meeting and Mating: Unintended Consequences of Organized Settings for Partner Choices." *Social Forces* 79:1289–312.

- Lee, S.M. and B. Edmonston. 2005. "New Marriages, New Families: U.S. Racial and Hispanic Inter-marriage." *Population Bulletin* 60:1–36.
- Lewis Mumford Center. 2001. "Ethnic Diversity Grows, Neighborhood Integration Lags Behind." Report. Lewis Mumford Center for Comparative Urban and Regional Research, State University of New York at Albany. Available online at <http://mumford.albany.edu/census/WholePop/WPreport/page1.html>.
- Liang, K.-Y. and S.L. Zeger. 1986. "Longitudinal Data Analysis Using Generalized Linear Models." *Biometrika* 73:13–22.
- Logan, J.R. 2002. "Hispanic Populations and Their Residential Patterns in the Metropolis." Report. Lewis Mumford Center for Comparative Urban and Regional Research, State University of New York at Albany. Available online at <http://mumford.albany.edu/census/HispanicPop/HspReportNew/page1.html>.
- Logan, J.R., B. Stults, and R. Farley. 2004. "Segregation of Minorities in the Metropolis: Two Decades of Change." *Demography* 41:1–22.
- Massey, D.S. 1985. "Ethnic Residential Segregation: A Theoretical Synthesis and Empirical Review." *Sociology and Social Research* 69:315–50.
- Massey, D.S. and N.A. Denton. 1988. "The Dimensions of Residential Segregation." *Social Forces* 67:281–315.
- . 1989. "Hypersegregation in U.S. Metropolitan Areas: Black and Hispanic Segregation Along Five Dimensions." *Demography* 26:373–93.
- . 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.
- Park, R.E. and E.W. Burgess. 1921. *Introduction to the Science of Sociology*. Reprinted, 1969, Chicago: The University of Chicago Press.
- Portes, A. and R.G. Rumbaut. 2006. *Immigrant America: A Portrait*, 3rd edition. Berkeley, CA: University of California Press.
- Portes, A. and M. Zhou. 1993. "The New Second Generation: Segmented Assimilation and Its Variants Among Post-1965 Immigrant Youth." *Annals of the American Academy of Political and Social Science* 530:74–96.
- Qian, Z. and D.T. Lichter. 2001. "Measuring Marital Assimilation: Inter-marriage Among Natives and Immigrants." *Social Science Research* 3:289–312.
- . 2007. "Social Boundaries and Marital Assimilation: Interpreting Trends in Racial and Ethnic Inter-marriage." *American Sociological Review* 72:68–94.
- Rosenfeld, M.J. 2005. "A Critique of Exchange Theory in Mate Selection." *American Journal of Sociology* 110:1284–325.
- Ross, S.L. and M.A. Turner. 2005. "Housing Discrimination in Metropolitan America: Explaining Changes Between 1989 and 2000." *Social Problems* 52:152–80.
- Scopilliti, M. and J. Iceland. 2008. "Residential Patterns of Black Immigrants and Native-Born Blacks in the United States." *Social Science Quarterly* 89:547–72.
- Singer, A. 2004. *The Rise of New Immigrant Gateways*. The Living Cities Census Series. Washington, DC: Brookings Institution.
- South, S.J., K. Crowder, and E. Chavez. 2005a. "Geographic Mobility and Spatial Assimilation Among U.S. Latino Immigrants." *International Migration Review* 39:577–607.
- . 2005b. "Migration and Spatial Assimilation Among U.S. Latinos: Classic Versus Segmented Trajectories." *Demography* 42:497–521.
- Squires, G.D. and C.E. Kurbin. 2006. *Privileged Places: Race, Residence, and the Structure of Opportunity*. Boulder, CO: Lynne Rienner Publishers, Inc.
- White, M.J., A.E. Biddlecom, and S. Guo. 1993. "Immigration, Naturalization, and Residential Assimilation Among Asian Americans in 1980." *Social Forces* 72:93–117.
- White, M.J. and S. Sassler. 2000. "Judging Not Only by Color: Ethnicity, Nativity, and Neighborhood Attainment." *Social Science Quarterly* 81:997–1013.

- Wilkes, R. and J. Iceland. 2004. "Hypersegregation in the Twenty-first Century: An Update and Analysis." *Demography* 41:23–36.
- Yinger, J. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. New York: Russell Sage Foundation.
- Zhou, M. 1999. "Segmented Assimilation: Issues, Controversies, and Recent Research on the New Second Generation." Pp. 196–211 in *The Handbook of International Migration: The American Experience*, edited by C. Hirschman, P. Kasinitz, and J. DeWind. New York: Russell Sage Foundation.
- Zubrinisky, C. and L. Bobo. 1996. "Prismatic Metropolis: Race and Residential Segregation in the City of Angels." *Social Science Research* 25:335–74.